

## **REMARKS**

By this Response, Applicants respond to the Office Action dated April 5, 2006 ("the Office Action"), in which Claims 1-30 were rejected. Claims 1-30 remain pending in this application.

### **Rejection of Claims 1-19 and 21-30 under 35 U.S.C. § 103(a)**

Claims 1-19 and 21-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,953,020 to Wang et al. ("Wang") in view of U.S. Publication No. 2003/0177164 to Savov et al. ("Savov").

Independent claim 1 recites a method for implementing a software FIFO, and includes receiving a request to write data to the FIFO, determining whether the FIFO is full by comparing the value of a counting semaphore with a predefined maximum value, and writing data to the FIFO if the value of the counting semaphore is less than the predefined maximum. Each of independent claims 11, 13, and 23 recite similar elements.

However, not only is there a lack of motivation to combine Wang and Savov, but the combination of Wang and Savov fails to teach or suggest all the limitations of each of the independent claims 1, 11, 13, and 23.

With respect to independent claim 1, although the Examiner acknowledges that Wang fails to teach the use of counting semaphores, the Examiner nonetheless contends that Wang teaches the actions of comparing the value of a semaphore to a predefined maximum and incrementing the semaphore if the value of the semaphore is less than the predefined maximum – actions that describe the behavior of a counting semaphore and are not taught or suggested by Wang, since Wang does not teach counting semaphores.

In addition, there is a lack of motivation to combine Wang and Savov. For example, Savov indicates that one might want to use semaphores in the context of a *multi-processing* environment. See Savov at para. 13. In contrast, Wang describes the use of a FIFO in a *uni-processor* environment (a graphics chip). As is evident, Savov only suggests the use of semaphores in the context of a *multi-processing* environment while Wang merely describes the use of a FIFO in a *uni-processor* environment. In addition, it is the various characteristics unique to the multi-processing environment (and that are non-existent in the uni-processing environment) that render the use of semaphores beneficial in a *multi-processing* environment.

Thus, there is a lack of motivation to modify the *uni-processor* environment of Wang with the semaphores used in a *multi-processing* environment of Savov.

The combination of Wang and Savov fails to teach or suggest each of the elements of independent claim 1, 11, and 23, in any event, there is no motivation to combine Wang with Savov. For at least these reasons, independent claims 1, 11, and 23 are patentable over Wang in view of Savov.

Claims 2-10 are dependent from independent claim 1, claim 12 is dependent from independent claim 11, and claims 24-30 are dependent from independent claim 23 and are thus allowable for at least the reasons set forth above in connection with claim 1, 11, and 23, respectively.

With respect to independent claim 13, the combination of Wang and Savov also fails to teach or suggest all of the limitations of this claim. In particular, neither Wang nor Savov teach or suggest computer code that is operable to implement a FIFO using a counting semaphore. Specifically, as the Examiner acknowledges, Wang fails to teach a counting semaphore. In addition, although Wang apparently describes the simulation of certain FIFO characteristics, this is not the same as computer code that actually implements a FIFO. Similarly, Savov also does not appear to describe the implementation of a FIFO using computer code in the manner recited in Applicants claim.

In addition, there is no motivation to combine Wang with Savov as described above with reference to independent claim 1.

Thus, the combination of Wang and Savov fails to teach or suggest each of the elements of claim 13, and, in any event, there is no motivation to combine Wang with Savov. For at least these reasons, Applicants respectfully submit that claim 13 is patentable over Wang in view of Savov.

Claims 14-19 and 21-22 are dependent on independent claim 13, and are thus allowable for at least the reasons set forth above in connection with independent claim 13.

#### **Rejection of Claim 20 under 35 U.S.C. § 103(a)**

Claim 20 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Savov and further in view of U.S. Patent No. 6,522,682 to Kohli et al. ("Kohli"). Claim

20 is dependent on independent claim 13, however, and is thus allowable for at least the reasons set forth above in connection with independent claim 13. Applicants therefore respectfully request that the Examiner withdraw the rejection of this claim.

### **CONCLUSION**

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

In the unlikely event that the transmittal letter accompanying this document is separated from this document and the Patent Office determines that an Extension of Time under 37 CFR 1.136 and/or any other relief is required, Applicant hereby petitions for any required relief including Extensions of Time and/or any other relief and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. **50-1217** (Order No. **INTCP002**).

Respectfully submitted,



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